

REMARKS

Claims 1-7 and 9-17 are currently pending. Claims 1-17 and 19-24 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,416,531 to Chen (“Chen”) in view of U.S. Patent No. 6,503,268 to Neuberger et al. (“Neuberger”). Applicants respectfully traverse.

35 U.S.C. § 103 Rejections

Claims 1, 19, 21 and 22 recite a medical radiation device for interstitial treatments of photodynamic therapy comprising means for independently and simultaneously controlling power output levels emitted through each individual radiation output port, wherein said power output level can be controlled/set independently for each individual output port.

The Office Action acknowledges that Chen fails to teach or suggest means for independently and simultaneously controlling power output levels emitted through each individual radiation output port, wherein said power output level can be controlled/set independently for each individual output port (Office Action, p. 3). Instead, the Office Action turns to Neuberger to address this deficiency of Chen. Specifically, the Office Action states that it would have been obvious to one of ordinary skill in the art to modify Chen in view of Neuberger and use a control means to control the output power of the light source (*Id.*). Applicants respectfully submit that the combination of Chen and Neuberger would not function as intended.

Chen discloses a method of administering light during photodynamic therapy (PDT) for an extended period of time at a plurality of sites distributed within the abnormal tissue of a tumor (Chen, Abstract). In one embodiment, a splitter 28 is used to divide the laser light source into individual optical fibers (Chen, FIG. 1). Chen teaches that the “light emitted by laser light source 26 is conveyed through an optical fiber 27 to a splitter 28 that divides the coherent light so that it is equally distributed among optical fibers 30a-30e” (Chen 7:20-24, emphasis added). Thus, the optical fibers 30a-30e are coupled to a splitter, which is coupled to a single output.

The Specification clearly discloses that the use of splitters, though common, is undesirable in this context. By using splitters “significant amounts of laser power are lost” and “the powers of the devices can usually be regulated only simultaneously and not independently from each other”

(Specification [0031]). As seen in Chen, the power to the optical fibers 30a-30e is equally distributed, hindering independent control of power output levels.

Moreover, the combination of Chen with Neuberger would be incapable of providing independent and simultaneous control of power output levels emitted through each individual radiation output port, wherein said power output level can be controlled/set independently for each individual output port as recited in independent claims 1, 19, 21 and 22. Neuberger simply teaches that a control device such as a personal computer can be used to control laser power output (Neuberger 4:8-16). However, if the control device of Neuberger were combined with the phototherapeutic apparatus of Chen, the result would be an apparatus where a control device is used to modify the power level at the single output of Chen, but all the individual optical fibers would maintain the same power levels since the controlled variable would have to transverse through the splitter. In other words, because Chen utilizes a single output and a splitter positioned after the single output, any modification to the power output level would be equally divided so that the individual optical fibers retain equal power levels. The necessary modification of Chen would require a set of controls devices positioned after the splitter 28, each control device being capable of modifying the power output level for a given optical fiber. Neither Chen nor Neuberger teach or suggest such a modification, nor do they disclose how such a modification can be accomplished.

For at least these reasons, claims 1, 19, 21 and 22 as well as those claims which depend therefrom are patentable over the cited references. Applicants respectfully request withdrawal of these rejections.

CONCLUSION

Applicants respectfully submit that all claims are in condition for allowance, which action is expeditiously requested. If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned. If the Examiner has any questions in connection with this paper, or otherwise if it would facilitate the examination of this application, please call the undersigned at the telephone number below.

Applicant believes that a fee for a three-month extension of time (\$550) for a small entity is currently due in association with entry of the present Response. Therefore the Commissioner is hereby authorized to debit \$550.00 to Deposit Account No. 50-3569. In the event that any fee(s) has been inadvertently overlooked and is required, the Commissioner is hereby authorized to debit any required fees or credit any overpayment to Deposit Account No. 50-3569.

Respectfully submitted,

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